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## Amendments to the Claims:

This listing of claims replaces all prior versions and listings of claims in the application:

## Listing of Claims:

## 1-11. (Cancelled)

- 12. (Currently Amended) An immunoassay method for determining the concentration of dioxins in a sample, the method comprising the following steps:
  - 1) allowing target dioxins in the sample and
  - a competitive antigen

to competitively react with a primary anti-dioxin antibody capable of binding to the target dioxins, and

determining the amount of competitive antigen-antibody complex from a label incorporated into a secondary antibody binding to the primary antibody;

2) allowing the competitive antigen and

a compound of formula (1) of known concentration

$$\begin{array}{c|c}
R^1 \\
R^2 \\
\hline
O-(CH_2)nCONH-Z
\end{array}$$
(1)

wherein R, R, R and R may be the same or different and each represents chlorine or hydrogen, R is an integer from 1 to 10, and R is an amino acid residue or poptide-represents 1 to 100 amino acid residues

to competitively react with the primary anti-dioxin antibody, and

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determining the amount of competitive antigen-antibody complex from a label incorporated into a secondary antibody binding to the primary antibody;

- preparing a calibration curve using the amount of competitive antigen-antibody complex determined in step 2); and
- 4) comparing the amount of competitive antigen-antibody complex determined in step 1) with the calibration curve prepared in step 3).
- 13. (Previously Presented) The immunoassay method according to claim 12, wherein the competitive antigen is a compound of formula (1) wherein Z is a carrier protein.
- 14. (Previously Presented) The immunoassay method according to claim 12, wherein the label is an enzyme, a radioactive substance, or a fluorescent substance.
- 15. (Previously Presented) The immunoassay method according to claim 12, wherein in formula (1), R and R are chlorine, R and R are hydrogen, R are hydrogen, R and R are hydrogen, R and R are hydrogen, R and R are hydrogen, R are hydrogen, R and R are hydrogen, R are hydrogen, R and R are hydrogen, R and
- 16. (Currently Amended) The immunoassay method according to claim 12, wherein in formula (1), R and R are chlorine, R and R are hydrogen, n is 25, and Z represents 1 to 34 amino acid residues.
  - 17. (Currently Amended).

An immunoassay method for determining the concentration of dioxins in a sample, the method comprising the following steps:

- 1) allowing target dioxins in the sample and
- a labeled competitive antigen

to competitively react with a primary anti-dioxin antibody capable of binding to the target dioxins, and

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determining the amount of competitive antigen-antibody complex from a label incorporated into the competitive antigen;

2) allowing the competitive antigen and

a compound of formula (1) of known concentration

$$\begin{array}{c} R^{1} \\ R^{2} \\ R^{4} \\ \end{array} O - (CH_{2})nCONIH-Z \end{array}$$
 (1)

wherein R, R, R and R may be the same or different and each represents chlorine or hydrogen, n is an integer from 1 to 10, and Z is an amino-acid-residue-or poptide-represents 1 to 100 amino acid residues

to competitively react with the primary anti-dioxin antibody, and

determining the amount of competitive antigen-antibody complex from a label incorporated into the competitive antigen;

- preparing a calibration curve using the amount of competitive antigen-antibody complex determined in step 2); and
- comparing the amount of competitive antigen-antibody complex determined in step
   with the calibration curve prepared in step 3).
- 18. (Previously Presented) The immunoassay method according to claim 17, wherein the competitive antigen is a compound of formula (1) wherein Z is a carrier protein.
- 19. (Previously Presented) The immunoassay method according to claim 17, wherein the label is an enzyme, a radioactive substance or a fluorescent substance.

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20. (Previously Presented) The immunoassay method according to claim 17, wherein in formula (1), R and R are chlorine, R and R are hydrogen, R is 5, and R represents 1 to 3 amino acid residues.

- 21. (Currently Amended) The immunoassay method according to claim 17, wherein in formula (1), R and R are chlorine, R and R are hydrogen, n is 25, and Z represents 1 to 34 amino acid residues.
- 22. (Currently Amended) A method of evaluating the toxic equivalent (TEQ) of dioxins in a sample, the method comprising the following steps:
  - 1) allowing target dioxins in the sample and
    - a competitive antigen

to competitively react with a primary anti-dioxin antibody capable of binding to the target dioxins, and

determining the amount of competitive antigen-antibody complex from a label incorporated into a secondary antibody binding to the primary antibody; ;

- 2) allowing the competitive antigen and
- a compound of formula (1) of known concentration

$$\begin{array}{c}
CI \\
R^4
\end{array}$$

$$\begin{array}{c}
R^2 \\
O-(CH_2) \text{nCONH-Z}
\end{array}$$
(1)

wherein R , R , R and R  $^4$  may be the same or different and each represents chlorine or hydrogen, n is an integer from 1 to 10, and Z  $^{16}$  is an amino acid residue or peptide represents 1 to 100 amino acid residues

to competitively react with the primary anti-dioxin antibody, and

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determining the amount of competitive antigen-antibody complex from a label incorporated into a secondary antibody binding to the primary antibody;

- preparing a calibration curve using the amount of competitive antigen-antibody complex determined in step 2);
  - 4) comparing the amount of competitive antigen-antibody complex determined in step 1) with the calibration curve prepared in step 3); and 5) calculating the TEO of dioxins in a sample.
- 23. (Previously Presented) The method according to claim 22, wherein the competitive antigen is a compound of formula (1) wherein Z is a carrier protein.
- 24. (Previously Presented) The method according to claim 22, wherein the label is an enzyme, a radioactive substance or a fluorescent substance.
- 25. (Previously Presented) The method according to claim 22, wherein in formula (1),  $R^2$  and  $R^3$  are chlorine,  $R^3$  and  $R^3$  are hydrogen,  $R^3$  and  $R^4$  are chlorine,  $R^3$  and  $R^4$  are hydrogen,  $R^4$  and  $R^4$  are chlorine,  $R^4$  and  $R^4$  are hydrogen,  $R^4$  and  $R^4$  and  $R^4$  are hydrogen,  $R^4$  and  $R^4$  and  $R^4$  are hydrogen,  $R^4$  and  $R^4$  and
- 26. (Currently Amended) The method according to claim 22, wherein in formula (1),  $R^3$  and  $R^3$  are chlorine,  $R^3$  and  $R^4$  are hydrogen,  $R^4$  and  $R^$
- 27. (Currently Amended) A method of evaluating the toxic equivalent (TEQ) of dioxins in a sample, the method comprising the following steps:
  - 1) allowing target dioxins in the sample and
  - a labeled competitive antigen

to competitively react with a primary anti-dioxin antibody capable of binding to the target dioxins, and

determining the amount of competitive antigen-antibody complex from a label incorporated into the competitive antigen;

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2) allowing the competitive antigen and

a compound of formula (1) of known concentration

$$\begin{array}{cccc}
R^{1} & & & & \\
& & & & \\
R^{4} & & & & \\
& & & & \\
R^{5} & & & & \\
\end{array}$$
(1)

wherein R, R, R and R may be the same or different and each represents chlorine or hydrogen, n is an integer from 1 to 10, and Z is an amino acid residue or peptide represents 1 to 100 amino acid residues

to competitively react with the primary anti-dioxin antibody, and

- determining the amount of competitive antigen-antibody complex from a label incorporated into the competitive antigen;
- preparing a calibration curve using the amount of competitive antigen-antibody complex determined in step 2);
- comparing the amount of competitive antigen-antibody complex determined in step
   with the calibration curve prepared in step 3); and
  - 5) calculating the TEO of dioxins in a sample.
- 28. (Previously Presented) The method according to claim 27, wherein the competitive antigen is a compound of formula (1) wherein Z is a carrier protein.
- 29. (Previously Presented) The method according to claim 27, wherein the label is an enzyme, a radioactive substance or a fluorescent substance.
- 30. (Previously Presented) The method according to claim 27, wherein in formula (1), R and R are chlorine, R and R are hydrogen, n is 5, and Z represents 1 to 3 amino acid residues.

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31. (Currently Amended) The method according to claim 27, wherein in formula (1),  $R^3$  and  $R^3$  are chlorine,  $R^1$  and  $R^4$  are hydrogen,  $R^3$  and  $R^4$  are hydrogen,  $R^4$  and  $R^$ 

- 32. (New) The method according to claim 12, wherein in formula (1),  $R^2$  and  $R^4$  are chlorine,  $R^1$  and  $R^3$  are hydrogen, n is 5, and Z represents glycylglycine.
- 33. (New) The method according to claim 12, wherein in formula (1) used in step 2),  $R^2$  and  $R^4$  are chlorine,  $R^1$  and  $R^3$  are hydrogen, n is 5, and Z represents glycylglycine and the competitive antigen is a compound of formula (1) wherein  $R^1$ ,  $R^2$ ,  $R^3$ , and  $R^4$  are, independently, a chlorine or hydrogen atom, n is an integer from 1 to 10, and Z is a carrier protein.
- 34. (New) The method according to claim 17, wherein in formula (1),  $R^2$  and  $R^4$  are chlorine,  $R^1$  and  $R^3$  are hydrogen, n is 5, and Z represents glycylglycine.
- 35. (New) The method according to claim 17, wherein in formula (1) used in step 2),  $R^2$  and  $R^4$  are chlorine,  $R^1$  and  $R^3$  are hydrogen, n is 5, and Z represents glycylglycine and the competitive antigen is a compound of formula (1) wherein  $R^1$ ,  $R^2$ ,  $R^3$ , and  $R^4$  are, independently, a chlorine or hydrogen atom, n is an integer from 1 to 10, and Z is a carrier protein.
- 36. (New) The method according to claim 22, wherein in formula (1),  $R^2$  and  $R^4$  are chlorine,  $R^1$  and  $R^3$  are hydrogen, n is 5, and Z represents glycylglycine.
  - 37. (New) The method according to claim 22, wherein in formula (1) used in

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step 2),  $R^2$  and  $R^4$  are chlorine,  $R^1$  and  $R^3$  are hydrogen, n is 5, and Z represents glycylglycine and the competitive antigen is a compound of formula (1) wherein  $R^1$ ,  $R^2$ ,  $R^3$ , and  $R^4$  are, independently, a chlorine or hydrogen atom, n is an integer from 1 to 10, and Z is a carrier protein.

- 38. (New) The method according to claim 27, wherein in formula (1),  $R^2$  and  $R^4$  are chlorine,  $R^1$  and  $R^3$  are hydrogen, n is 5, and Z represents glycylglycine.
- 39. (New) The method according to claim 27, wherein in formula (1) used in step 2),  $R^2$  and  $R^3$  are chlorine,  $R^1$  and  $R^3$  are hydrogen, n is 5, and Z represents glycylglycine and the competitive antigen is a compound of formula (1) wherein  $R^1$ ,  $R^2$ ,  $R^3$ , and  $R^4$  are, independently, a chlorine or hydrogen atom, n is an integer from 1 to 10, and Z is a carrier protein.